

PROJECT IDEAS for POTENTIAL SUPPLEMENTAL ENVIRONMENTAL PROJECTS

Updated 01-07-04

DISCLAIMER

The following list is a compilation of ideas for Supplemental Environmental Projects (SEPs) submitted by private individuals and entities, as well as federal, state and local governmental agencies. Inclusion of a project herein does not constitute or imply its endorsement, recommendation, pre-approval or favoring by the United States Government. In addition, inclusion of any project in a settlement with the United States for violations of environmental law must comport with the terms of the May 1998 SEP Policy, including the requirement that the project have a nexus to the violation, and that the project is not one that the violator is required to perform, or which the court would likely order as injunctive relief in that case or in another case the Agency could bring.

Public Health Type Projects

Public Health Clinics - Operate and maintain health clinics serving low income and minority communities and sensitive populations. Such projects could include the purchase and operation of a mobile health clinic, including outfitting the mobile unit with the necessary medical equipment and staff, or funding the operations of a stationary health clinic for a specified period of time. For example, a mobile health unit could provide assistance such as asthma screening and treatment; blood lead level testing and treatment for children in public housing; or testing for baseline medical markers in migrant workers.

Lead-based paint abatement - Conduct abatement in target housing or child-occupied facilities, particularly where the housing is located in an environmental justice community.

Lead Health Screening Equipment - Purchase and donation of lead health screening equipment to schools, public health departments, clinics, etc.

Diesel retrofits - Diesel retrofits and/or replacements of buses, trucks, locomotives, and other vehicles powered by diesel engines to reduce emissions of particulate matter and other pollutants that contribute to childhood asthma.

Purchase of Emissions Credits for Retirement - Purchase and retirement of PM, SO₂ and NO_x emission credits.

Addressing Methylmercury Hazards - Bioaccumulation of MeHg (Methylmercury) in fish tissue may exist on most Great Plains Reservations. Population at significant risk includes: elderly, pregnant women, and nursing mothers. Projects could include construction and maintenance of health clinics, health screening, fish testing, and education to address methylmercury hazards.

Assessment of Drinking Water Quality for Migrant Farm Worker Facilities - Assess drinking water quality and provide safe drinking water supply where necessary.

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Environmental Restoration Type Projects

Restore Migratory Bird Habitat - Such projects could include the purchase and/or preservation of land used as nesting sites; development of habitat to encourage return of endangered or threatened species; reforestation; wetlands remediation.

Preservation/Restoration of Aquatic Resources - Implement projects that create, restore and/or preserve threatened aquatic resources, including wetlands. Mechanisms to accomplish this goal can include:

- Funding proposed aquatic resource restoration projects.
- Supporting land trust projects to preserve aquatic resources threatened with degradation or destruction by unregulated activities.
- Purchasing and retiring credits from mitigation banks approved by EPA and the Corps pursuant to the 1995 *Federal Guidance for the Establishment, Use and Operation of Mitigation Banks* (<http://www.epa.gov/owow/wetlands/mitbankn.html>).

Impacts associated with the enforcement action should fall within the service area of the bank and credits should be available (i.e., not potential credits but rather credits that have already been released pursuant to the bank's credit release schedule).

Stream Restoration - Potential projects include removal of solid waste/sediments from stream/river-beds; stabilization and revegetation of stream banks; construction of fish ladders/passageways; enhance fish and other aquatic life habitats.

Design and Construction of a Fish Passageway - Projects designed to enhance the population of threatened or endangered fish species by restoring fish migration routes.

Deep Row Incorporation of Biosolids on Reclamation Sites - A unique alternative land application method that solves many of the problems associated with surface application techniques. It involves the placement of application rates of biosolids (171 to 294 dry tons per acre) into shallow trenches that are then covered with overburden, eliminating odor problems and maintaining biosolids in a fairly stable anaerobic environment. The site is then planted with nitrogen-demanding hybrid poplar trees, the roots of which provide a natural recycling system that utilizes nutrients on-site over a six-year rotation. The site produces forest products, wildlife habitat, and reduces erosion while reclaiming abandoned, biologically-dead soils left after sand and gravel mining. After the six-year rotation utilizes most of the available nutrients, trees are harvested and biosolids re-applied in deep rows perpendicular to the original trenches.

Green Buffers and/or Conservation Easements - Projects in which funds are used to purchase land to maintain in a natural state as a buffer between development areas (neighborhoods, shopping centers, etc.) and receiving water bodies. Such buffer zones will help slow stormwater run off and provide a filter for water reaching the receiving water body. Land could be purchased and maintained under a conservation easement by an individual or company, or an individual or company could work through a third party land trust and purchase land which would be donated to, and then managed by, the land trust.

Site Revegetation - Projects involving construction sites where the percent of site revegetation is increased to 100%, going beyond what is required by law.

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Pollution Prevention/Pollution Reduction Type Projects

Green Engineering - Implementation of green engineering methods and models at facilities, with specific measurable pollution prevention results as the goal.

Auto Body Refinishing/Coatings Controls/Pollution Prevention - [Stationary Sources] Automobile refinishing includes surface preparation, painting and equipment cleaning. Emissions are controlled through the use of products with low Volatile Organic Compounds (VOCs), improvements in application technique so less coating is used, and controls on the use of clean-up solvents. Toxic emissions reduced are primarily VOCs from the solvents used in paints.

Heavy Duty Diesel Programs - [Transportation] There are several types of heavy duty diesel related projects, including anti-idling, replacement, and retrofit programs. The primary toxic emissions reduced are particulates released by the diesel engines powering diesel vehicles, especially city buses and other large fleets of diesel vehicles. Anti-idling projects are intended to reduce diesel exhaust emissions by reducing the amount of time that buses idle. Replacement projects aim to remove older buses from fleets and replace them with new, less polluting buses. Retrofit projects promote upgrading buses that will remain in the fleet with better emission control technologies and/or fueling them with cleaner fuels.

Recycling Center - Project could involve the funding of an existing recycling center; construction of a recycling center where none currently exists; sponsorship of a household hazardous waste recycling program in which such wastes are collected and recycled or disposed of properly.

PCB Clean-up of PCB Fluid Contained in Old (pre-1976) Light Ballasts - When a ballast expires, it can result in the "highly concentrated" fluid leaking as a solid which can be absorbed or ingested. The other pathway is inhalation by breathing the gas that is sometimes released when the ballast's burns out. Projects could address this situation by changing out old ballasts, collecting ballasts, or cleaning up spilled PCBs from leaking ballasts.

Voluntary Phase Out of PCBs - Project funds could be used to voluntarily replace PCB-containing equipment.

Installation of Anaerobic Digesters - Digesters greatly decrease odor, kill coliform bacteria, put the nutrients into more manageable form and generate methane that can be used to heat a facility or to generate electricity that can be sold back to the grid.

Installation of a Coolant Recycling System to Recycle Spent Coolant - Recycling spent coolant from machining processes can reduce loadings of biological oxygen demand to the municipal sewer.

Household Hazardous Waste (HHW) Collection Project - Collect, process, and dispose of HHW in an environmentally conscious manner; Provide a product exchange and drop off for usable or recyclable wastes; Provide education to homeowners on HHW; Reduce the HHW being discharged to municipal publicly owned treatment works (POTWS); and Reduce HHW going to the municipal landfills. The primary toxic emissions reduced are HAPs found in gasoline, paints, paint thinners, pesticides, cleaners, and other household chemicals.

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Install and Operate a Closed Loop Wastewater Treatment - Install and operate a closed loop wastewater treatment system so that facility's industrial waste streams can be treated and reused and therefore eliminate the facility's processed wastewater discharges to local publicly owned treatment works (POTW).

Cleaning Up an Abandoned Mine Site or Plugging Leaks in an Abandoned Injection Well - Projects could include the clean up of abandoned mine sites or the plugging of leaks in abandoned injection wells, assuming the entity performing the clean up has no liability for such activities.

Truck Stop Electrification - Technology installed at locations where extended truck idling occurs. Truck stop electrification projects provide heating, air conditioning, electricity, etc. to the driver's compartment and thereby allow a driver to completely shut down the main propulsion engine of the diesel truck, eliminating almost all of the air pollution associated with providing heating, air conditioning, electrical power, etc. during layovers. Truck stop electrification utilizes power from the electric grid, which is a much cleaner, more efficient energy source than the vehicle engine. Installation and startup can typically be accomplished in just a few months. The primary toxic emissions reduced are particulates released by the diesel engines powering the trucks.

Mercury Thermometer Exchange Program - The goal of such projects is to reduce anthropogenic (human-derived) loadings of mercury to the environment. Such projects can provide digital thermometers in an effort to support mercury thermometer exchange events through the state. In these events, the public is encouraged to trade in their mercury fever thermometers and receive a free digital fever thermometer. Mercury thermometers typically contain 0.5 to 1 gram of mercury. Turning in liquid elemental mercury and other mercury-containing devices is also encouraged.

Low Impact Development Retrofits of Parking Lots - The high levels of impervious cover associated with parking lots and rooftops (shopping malls, business parks, etc.) have made them significant sources of urban nonpoint source pollutants for watersheds. Low Impact Development (LID) is an approach to site design and stormwater management that seeks to reduce downstream impacts by using the landscape as a natural filter, and as a means of recharging groundwater. LID uses integrated management practices such as "bioretention" or rain gardens, green roofs, and other practices to replicate the pre-development hydrologic regime on the site both for water quality and quantity. LID retrofits of parking lot stormwater management would greatly reduce pollutant loads to nearby streams, rivers, etc. and reduce high volume erosive flows to receiving water bodies.

Post Construction Best Management Plans (BMPs) - Design, implement, maintain post-construction BMPs to reduce runoff and associated pollutants to include: maintenance of pre-development hydrology and predevelopment runoff rates, minimize discharge of pollutants, minimize thermal impacts to receiving water bodies, protect areas that provide important water quality benefits, limit increases of impervious areas, limit land disturbance activities, limit disturbance of natural drainage features, ensure fertilizer and pesticide runoff/spills are contained, and provide pervious surface paving wherever possible.

Roof Gardens/Green Roofs - Projects involve the development and maintenance of Green Roof projects. Create and maintain "roof gardens" which, depending on the nature and design of the garden, could be used as actual garden recreation areas, or which would be maintained for stormwater control only. Roof gardens would replace the more traditional roofing with natural vegetative and absorbent materials that would reduce run-off while maintaining the garden.

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Rain Harvesting - Project funds could be used to install and maintain systems in which rain water is collected and then used for irrigation purposes. For example, large outdoor shopping centers could use water from rain water retention ponds to water the landscaping. Rain harvesting could potentially be included as part of a Green Roof project.

Enhanced Erosion Control Practices - Such projects utilize natural woody vegetation from construction sites as mulch to provide a biodegradable barrier for erosion control at sites greater than five acres. Liquid anionic polymers (PAMs) are added to stabilize the mulch where appropriate. PAMs are used alone or in conjunction with reseeded at sites less than five acres, to increase the effectiveness of existing sediment control methods. Project could also include preparation of a worksite erosion control manual and training for those who will implement the project in site assessment, preparation, and maintenance.

Electroplating Toxics Reduction - [Stationary Sources] Toxic emissions from electroplating are primarily of metallic Hazardous Air Pollutants (HAP), including chromium and VOC from cleaning solvents. Projects are designed to reduce emissions resulting from evaporation, promote switching to cleaning solvents that evaporate more slowly than toxic solvents, and promote installation of ventilation hoods over plating baths. Other projects implement the use of cleaning procedures that reduce the amount of air pollutants.

Gas Can Replacement - [Miscellaneous] Portable gas cans, like those used to fuel lawnmowers, account for a significant amount of smog-forming emissions escaping into the air every day. By using newer gas cans with features such as shut off valves, harmful gasoline fumes can be reduced by 75%. These fumes contain several HAPs, including benzene. Projects can be designed to address this issue by conducting programs that allow citizens to trade in old gas cans and, in return, receive a rebate, discount or even free environmentally-friendly cans.

Residential Wood Burning Projects - [Stationary Sources] Residential Wood Burning projects include changing the way people operate their stoves or fireplaces, encouraging people to heat more efficiently, and replacing old woodstoves or fireplaces with USEPA-certified woodstoves, or installing catalytic combustor devices. Project funds could be used to provide individual homeowners with USEPA certified woodstoves in exchange for trading in old, uncertified, inefficient woodstoves. Residential wood burning emits numerous toxic compounds, including polycyclic organic matter (POM), dioxin, and toxic vapors including benzene and formaldehyde.

Commute Solutions Projects - [Transportation] Such projects are designed to encourage and provide tools to implement commute vehicle miles traveled (VMT) reduction programs (e.g. Teleworking, compressed work week, carpooling/vanpooling, bus fares, subsidized transit pass, flextime, carpool or alternative transportation incentives etc.) The toxic emissions reduced are primarily those associated with vehicular exhaust and fueling.

Green Building/Rehabilitation of Contaminated Properties - Green Building Projects may address one or several sources of pollution generated by a building or construction project. A green building project may involve the use of green building technologies at the redevelopment of a nearby contaminated property and could include activities such as:

- Purchase energy efficient materials/systems or low VOC emitting materials for the redeveloper;
- Construction of a 'greywater' recycling system;
- Provision of superior stormwater management for a redevelopment project;

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- Purchase of recycled construction materials;
- Recycle construction or demolition waste at the site.
- Development and implementation of large-scale integrated green design and procurement for a nearby cleanup and redevelopment project.

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Renewable Energy/Energy Efficiency Type Projects

Provide an Onsite Dedicated Wind Turbine - A school or community with a good wind resource can benefit from an onsite dedicated turbine to meet energy needs. An onsite wind turbine can reduce a school's energy bills, allowing these funds to be used for other purposes. If the turbine provides more energy than the school requires, the excess can be sold back to the utility, further improving the economics of the project.

Add a Turbine to a Wind Farm - Support the addition of a turbine to an existing wind farm leveraging existing infrastructure costs, including challenges such as siting, and operations and maintenance responsibilities. Additionally, the turbine (and its energy production) could be dedicated to a school. Net revenue generated from the sale of electricity could be used to reduce the costs of school programs.

Install a Turbine on State Lands - Many States have state lands that are suitable for wind turbines. Project funds could be used to install turbines on state lands, with the understanding that revenue from the power generated would be returned to public schools in offsets or in actual revenue for school programs.

Fund a District Project - A utility scale wind turbine can be a large project for an individual school, but it may be more manageable for a school district. A district also has more lands available, offering a greater number of siting opportunities. Project funds could be used for any portion of such a project: feasibility analysis, site selection, installation, or even training local students or staff to maintain the turbine. This community-based effort would benefit the school system in energy cost savings and, if power is sold to the grid, in revenue that could be used for school programs.

Blend Wind Energy with Energy Efficiency - Studies have shown that total energy and energy cost savings are maximized per unit investment when efficiency measures are combined with renewables installations. Project funds could be used to produce an investment/sizing tool that optimizes the benefits of blending energy efficiency with wind energy for schools and to develop some demonstrations of those benefits.

Fund Wind Power for a Local School Application - Project funds could address specific needs of a school by providing wind-generated electricity directly to the school for that purpose. The best applications would be highly visible, such as lighting for school activities, water heating for showers, and space heating for hallways. These direct applications are more accessible and understandable to the public and decision-makers involved and can provide higher benefit to the school by offsetting energy with a higher value than the utility may be willing to credit.

Purchase the Wind "Premium" for a Local School - A utility might charge more for wind energy than for energy from traditional sources. Project funds could be used to pay for this wind premium (cents/kWh) for a school for a certain time period. The premium is determined as the cost of wind energy less avoided cost.

Secure Energy - During a disaster, solar power can be used to refrigerate vaccines and medical supplies and power communication equipment. Project funds could be used to outfit schools with solar power that will provide a learning opportunity for students and a secure, powered base of

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operations for a community during a natural disaster. Project funds could similarly be used to provide solar power to hospitals, nursing homes, etc.

Wind Power Purchasing - Project funds can be used to purchase wind energy for a specified period of time, reducing the need to burn fossil fuels and thereby leading to improved air quality. improving the state's air quality at a level equal to planting more than 1,000 acres of trees.

Purchase Green Tags (or buy down green tags) - Project funds could be used to purchase green tags for schools or to reduce the cost of the green tags, thus increasing the amount of tags the school could purchase.

Installation of Solar Hot Water and Photovoltaic (PV) Applications - Such systems eliminate the emissions associated with electricity generation or heat from the burning of fossil fuels. PV systems are scalable and can be used in smaller settlements. Potential applications: Schools, adding solar panels to truck stop electrification projects.

Air Conditioner Exchange Program - Funding of programs that accept older, less efficient window air conditioners (or other inefficient appliances) and providing incentives to purchase energy efficient replacements. Program includes proper disposal of old units (including refrigerant and metals recovery). New replacement units lower energy costs for the user, reduce overall electricity demand, and displace associated air emissions during summertime conditions, which are conducive for the formation of ground level ozone.

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Audit and Assessment Type Projects

Address Problems with Oil & Gas Development and Production in Indian Country - Perform a baseline assessment and monitoring of the oil and gas production site.

Environmental Management Systems - Develop and implement a facility-wide or corporate-wide system for a specified number of years.

Comprehensive Energy Audits can find energy savings opportunities that would otherwise go unrealized. Coupling energy improvement assessments with funding for recommended improvements for the building envelop and building processes can realize energy cost savings as well as reduced emissions from lower energy demand

Energy Audits and Efficiency Retrofits for Water Treatment and Water Supply - Municipal water treatment and supply facilities use vast amounts of energy. Energy savings opportunities exist at many facilities, which are especially timely to consider and fund when other improvement projects are being considered.

Measure and Compare Actual Post-Construction, Stormwater Runoff Flows, with the pre-construction, "theoretical" design flows for construction sites. Project aims would be to provide data for better calibration of runoff models.

Measure Levels of Natural Organic Matter (NOM) - Measure levels at in-stream, static sampling locations of NOM pre- and post- construction. NOM is the material that makes streams brownish in color. Such data could be used to establish need for post-construction stormwater management as well as low impact development retrofits. There is data available that indicates the loss of NOM in a stream results in significant impairment of the stream.

Compliance Promotion Type Projects

Develop/Implement Model Enforcement Management System - This would include the following:

- Development of Model Stormwater Pollution Prevention Plan (SWPPP)
- Pre-Inspect Site Prior to Groundbreaking to Ensure BMPs Adequate
- Training Program
- Pre-Contract Checklist
- Pre-Construction Meetings
- Tailgate Meetings
- Daily/Weekly/Monthly Inspections

Develop Training/Outreach Materials & Conduct Training for Agricultural Producers Relating to:

- EPA Worker Protection Standards
- Manure management or odor abatement technology
- Pesticide equipment calibration

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